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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HUMAN STEM CELL MATERIALS AND METHODS

(57) Abstract: Monocyte derived adult stem cells (MDSCs) isolated from peripheral blood of mammals is provided, along with pharmaceutical compositions containing an MDSC, kits containing a pharmaceutical composition, and methods of preparing, propagating and using MDSCs or differentiated derivatives thereof. The uses of these biological materials include methods of treating disorders or diseases, as well as methods of ameliorating a symptom associated with any such disorder or disease.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/35538

A. CLASSIFICATION OF SUBJECT MATTER IPC(7)						
US CL : 435/325, 372, 373; 424/577						
According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED						
Minimum documentation searched (classification system followed by classification symbols)						
U.S.: 435/325, 372, 373; 424/577						
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched						
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please See Continuation Sheet						
C. DOCUMENTS CONSIDERED TO BE RELEVANT						
Category *	Citation of document, with indication, where			Relevant to claim No.		
Y, P	US 6,534,055 B1 (JUNE et al) 18 March 2003 (18	.03.03), se	e entire document, Abstract	. 1-36		
Y	in particular. US 6,465,247 B1 (WEISSMAN et al) 15 October Abstract in particular.	2002 (15.1	0.02), see entire document,	1-36		
Y	US 6,274,378 B1 (STEINMAN et al) 14 August 2001 (14 08.01), see entire documents, Abstract in particular.			1-36		
Y	WO 99/20741 A1 (GERON CORPORATION) 29 April 1999 (29.04.99), see entire doument, Abstract in particular.			1-36		
Y	WO 99/61584 A1 (THOMAS JEFFERSON UNIVERSITY) 2 December 1999 (02.12.99), see entire document, Abstract in particular.			1-36		
Y	WO 01/62895 A2 (XCYTE THERAPIES, INC.) 30 August 2001 (30.08.2001), see entire 1-36 document, Abstract in particular.					
Y	WO 92/18615 A1 (INDIANA UNIVERSITY FOUNDATION) 29 October 1992 (29.10.92), see entire document.			1-36		
Y				1-36		
Y	US 5,733,541 A (TAICHMAN et al) 31 March 1998 (31.03.98), see entire document, Abstract in particular.			1-36		
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Further documents are listed in the continuation of Box C. See patent family annex.						
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INTERNATIONAL SEARCH REPORT	PCT/US03/35538				
Continuation of B. FIELDS SEARCHED Item 3: BIOSIS, CAPLUS, SCISEARCH, MEDLINE, EMBASE, USPATFULL, PCTFULL, WEST Seach terms: Huberman E, Zhao, Y, stem cells, peripheral -blood monocyte, M-CSF, IL-6, LIF, MAC-1, Cd14, Cd34, CD40					

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